



Science Resource List

- Abell, Sandra K. & Volkmann, Mark J. (2006). *Seamless Assessment in Science: A Guide for Elementary and Middle School Teachers*. Arlington, VA: NSTA Press. (The authors provide classroom examples of embedded formative and summative assessments that align with the 5E instructional framework.)
- Ansberry, K.R. and Morgan, E. (2005). *Picture-Perfect Science Lessons: Using Children's Books to Guide Inquiry*. Arlington, VA: NSTA Press. (Integrated science and reading lessons based on children's picture books are used to develop student interest and expertise in science.)
- Arter, J. and Busick, K. (2001). *Practice with Student-Involved Classroom Assessment*. Portland, Ore.: Assessment Training Institute. (A study/discussion guide containing activities designed to extend and apply learning introduced in Stiggins' *Classroom Involved Assessment*.)
- Atkin, M.J. and Coffey, J.E. (2003). *Everyday Assessment in the Science Classroom*. Arlington, Va: NSTA Press. (A rich compilation of essays illustrating a variety of assessment strategies.)
- Black, P. et al. (2003). *Assessment for Learning: Putting it into Practice*. New York, N.Y: Open University Press. (The classic treatise on the importance of classroom formative assessment.)
- Brown, H.H. and Shavelson, R.J. 1996. *Assessing Hands-On Science*. Thousand Oaks, Ca.: Corwin Press. (A classic guide to the effective use of performance assessments.)
- Carlson, M., Humphrey, G. & Reinhardt, K. (2003). *Weaving Science Inquiry and Continuous Assessment: Using Formative Assessment to Improve Learning*. California: Corwin Press. (A useful overview of formative assessment, contains many elementary classroom examples and suggestions.)
- Donovan, M.S. and Bransford, J.D. (2005). *How Students Learn Science in the Classroom*. Washington, D.C: National Academy Press. (This book explores how principles of learning can be applied to the teaching of science.)
- Enger, S. and Yager, R. (2001). *Assessing Student Understanding in Science*. California: Corwin Press. (A standards-based K-12 handbook, focusing on the processes, attitudes and nature of science domains. Contains examples for grades K-4, 5-8 and 9-12.)
- Harlen, W. (2000). *Teaching, Learning and Assessing Science 5-12*. 3rd ed. London, England: Paul Chapman Publishing. (Harlen uses formative assessment as a framework for guiding decisions about how to help students develop conceptual understanding, inquiry skills, and positive scientific attitudes.)
- Keeley, P. (2005). *Science Curriculum Topic Study*. Thousand Oaks, Ca.: Corwin Press. (An invaluable resource that provides a cross-walk of science concepts through the standard national references.)

- Keeley, P. (2005). *Uncovering Student Ideas in Science Vol 1: 25 Formative Assessment Probes*. Arlington, Va.: NSTA Press. (Brief assessment activities that uncover student thinking about core science topics.)
- Llewellyn, D.2005. *Teaching High School Science Through Inquiry*. Thousand Oaks, Ca.: Corwin Press. (A case study approach to guide Inquiry application in high school science classrooms.)
- Martens, Mary L. (1999). "Productive questions: Tools for Supporting Constructivist Learning." *Science and Children*. Vol. : No. .pp. 24-28. (An NSTA article summarizing six types of productive questions for instructional and assessment use.)
- National Research Council. (2001). *Classroom Assessment and the National Education Standards*. Washington, D.C: National Academy Press. (A sequel to the National Science Education Standards that provides a clear guide for appropriate assessment in science, again--a basic resource.)
- O'Malley, Kevin.(2000). *Testing Miss Malarkey*. New York, N.Y: Walker & Company. (A humorous, fictional picture book about the effects of testing on one school. Can be used with students of all ages.)
- O'Connor, K. (2002). *How To Grade for Learning: Linking Grades to Standards*. Arlington Heights, Ill.: Pearson Education Inc. (An excellent overview that connects assessment with grading.)
- Stephans, Joseph (1996). *Targeting Students' Science Misconceptions: Physical Science Concepts Using the Conceptual Change Model*. Riverview, Fla.: Idea Factory Inc. (A useful overview of the effective use of conceptual change as applied to physical science content with many assessment examples.)
- Stiggins, Richard J. (2001). *Student Involved Classroom Assessment*. (3rd Ed). Upper Saddle River, N.J: Prentice Hall, Inc. (An outstanding resource addressing assessment FOR learning, not assessment OF learning. A real paradigm shift for many!).
- Tomlinson, Carol. (2001). *How to Differentiate Instruction in Mixed-Ability Classrooms*. (2nd Ed). Alexandria, VA: ASCD. (The author shows how to use students' readiness levels, interests, and learning profiles to address student diversity.)
- Tomlinson, Carol A. & McTighe, Jay. (2006). *Integrating Differentiated Instruction and Understanding by Design*. Alexandria, VA: NSTA Press. (A new resource that presents practical ways of blending both the differentiated instruction and the understanding by design [backwards design] models.)
- Wiggins, Grant & McTighe, Jay (1998). *Understanding by Design*. Alexandria, Va.: ASCD. (A classic resource for all pre-service teachers these days; emphasizes 'backward design'—beginning with an assessment and working backward to instructional strategies.)

Science Websites:

Curriculum Topic Study Website—The latest information about Science Curriculum Topic Study—a resource for connecting state and national standards, research on students' ideas in science, and opportunities for students to learn science through improved teacher practice (<http://www.curriculumtopicstudy.org/>).

Exploratorium— The scientific process of asking questions and seeking answers serves as the foundation of the Institute for Inquiry. The Institute provides a variety of workshops, forums, and resources to support an international community of scientists and educators dedicated to developing innovation and leadership in science education (<http://www.exploratorium.edu/ifi/index.html>).

Force and Motion Online Teacher Workshops— Explore force and motion concepts online and develop a deeper understanding of these science concepts that will help you to engage your students in their own explorations <http://www.learner.org/channel/workshops/force/>
A full list of Annenberg Teacher Workshops is available at:
http://www.learner.org/channel/workshops/workshop_list.html

National Science Teachers' Association (NSTA) publications (*Science and Children/Science Scope/Science Teacher*); see www.nsta.org.

NSTA Resource Page:
<http://store.nsta.org/home.asp?session=A536C5701C664B10A14F08050D4099A7>

Performance Task Examples—TheVermont Southwest Science Partnership—This website established through the Southwest Curriculum Coordinators' Collaborative offers a sampling of Vermont GE-aligned Performance Tasks that may be adapted and used in your classroom.
<http://www.swvtc.cc.org/science/assessments.html>

Science Notebook Website—The purpose of this website is to support classroom teachers in their quest to use science notebooks in their classroom (<http://www.sciencenotebooks.org/>).

